this notice is presented, it may be considered as the not unfrequent result of investigating the wonderful workings of instinct, that the more we direct our attention to the subject, the more we feel the want of more diligent research, and the insufficiency of our attainable results.

XXV. *Observations on the Species of Spiders which inhabit cylindrical Tubes covered by a moveable Trap-door.* *By* J. O. Westwood, F.L.S. &c.

[Read January, 1840.]

Of all the habitations constructed by annulose animals for their own abodes, those cylindrical retreats lined with silk and fitted to the size of the creature's body, are amongst the most ingenious. These are of two kinds: 1st, those which are moveable, the creature generally weaving various extraneous materials into the texture of the web, and often with the greatest regularity, (amongst which I may particularly mention the nests made by the caddice worms and the caterpillars of various *Lepidoptera*); and 2ndly, those which are fixed, being formed either in wood or the earth. Instances of the latter are afforded by various species of wild bees and wasps, but they are of a comparatively rude construction compared with the cells of the trap-door spiders. The interest excited by the accounts of these spiders has been kept alive since the middle of the last century, when M. Sauvages published his account of an "*Araignée maçonne*," in the Mémoirs de l'Academie des Sciences, for 1758. This species was the *Mygale cæmentaria* of Walckenaer, respecting which M. Dorthes published some additional particulars in the second volume of the Transactions of the Linnæan Society of London. Another South European species, *M. fodiens*, Walck., *A. Sauvagesii*, Rossi, has afforded to M. V. Audouin materials for a very interesting memoir, published in the "Annales de la Société Entomologique de France," vol. ii. pl. 14. These species have been separated from the genus *Mygale* by Latreille, under the name of *Cteniza*, but M. le Baron Walckenaer, in the first volume of his "Histoire Naturelle des Insectes Aptéres," has reduced them again to a family of the genus *Mygale*. Our valued member, S. S. Saunders, Esq., has laid before this Society the details of the economy of another species, from Albania, which constitute one

of the most interesting communications hitherto published in our Transactions: (See the preceding Arts. XXIII. and XXIV.) Mr. Shipster has also exhibited, at a former meeting of this Society, a nest received by him from New Holland, remarkable for having the trap-door of the orifice scarcely more than semicircular.* Another nest from New Granada, with a circular trap-door, has recently been figured by M. Audouin, in the "Annales des Sciences Naturelles." As the architect of this nest was not observed, it is imposible to say whether it was the trap-door spider, the history of which has been detailed to us by our excellent member, W. Sells, Esq., whose personal knowledge of the subject has enabled him to give to his details an interest, which those whose descriptions are founded only upon preserved specimens can never hope to attain. This insect is an inhabitant of Jamaica, and apparently of other parts of the new world, and was first described by Brown, in his "History of Jamaica" (p. 420, No. 2, pl. 44, fig. 3), and has been referred to the genus *Mygale*, without the expression of any doubt by Latreille, as well as by Olivier and others, including Walckenaer, who places it at the head of his section *Les digitigrades mineuses*, or the genus *Cteniza*. The last named authors had evidently, however, never seen the insect in nature, and Latreille had only seen a specimen of it casually in the collection of the Linnæan Society of London.

The account given of it by Brown is very short, being as follows: "*Tarantula* 2. *Fusca major subhirsuta, sub terram nidulans.* The black *Tarantula*. This sort is represented of the natural size, as well as its nest *and both its valves*, which are so well contrived, and so strongly connected, that whenever they are forced open, the native elasticity of the ligaments that fix them restore 'em immediately to their usual position. It is most frequently in the loose rocky soils, and nestles under ground."† Brown's figures correspond very well with the spiders brought home by Mr. Sells, so that we should consider his insects as the same as that described by the former. This is the more necessary to be decided, because Brown's figure of the two valves at the orifice

* Mr. Bennett has shortly described the nest of a species of trap-door spider frequently observed about the plains in New South Wales; he however gives no description of the insect by which it is made (Wanderings in New South Wales, vol. i. p. 328, quoted in Entomol. Mag. vol. iii. p. 215).

† Brown's figure represents the regular trap-door partly opened, having a larger and looser flap attached to its base at the hinge above, and falling backwards; and a specimen of the nest in the Linnæan Society's collection is furnished with a *short* lax membranous appendage on the outside of the trap-door immediately behind the hinge.

does not at all correspond with Mr. Sells's figure of one of his nests, and leads us to conclude either that some inaccuracy exists in Brown's observations, or that Mr. Sells's insect is not specifically identical with Brown's, or else that the species occasionally forms two valves to its nest, as indeed the observations both of Mr. Sells and Mr. Saunders seem to prove is the case. Latreille also described a nest which he had received from Jamaica, (forwarded by an Englishman, Mr. With, to M. Royer, see "Cours d'Entomologie," p. 508), with a single valve, as identical with Brown's species, noticing at the same time the difference between it and the description and figure of Brown (Latr. Vues générales sur les Araneides à quatre pneumo-branchies, in Nouv. Ann. du Muséum, t. 1). The Baron Walckenaer, however, questions whether the single-valved nest be that of Brown's spider, observing, "il est permis de croire que Latreille a decrit le nid d'une espèce de *Mygale* mineuse différente de celle de Brown, et qui est peut-être le même que celle qui au rapport d'Olivier, a été observée à la Guadaloupe par M. Badier," who considered his nest from that island as identical with that of Latreille, although it was described as having two valves, which were not "opposées mais superposées, et ont une charnière commune; la plus grosse et la plus large est soudée dans la moietié de la partie postérieure de l'autre et doit la recouvrir ainsi que les margelles du trou."—(Hist. Nat. Ins. Apt. 1, 234.)

It thus appears questionable, whether there are not two species of American trap-door spiders, which differ in the mode of forming the valves of their nests.*

Let us now endeavour to trace the nomenclature of the Transatlantic species.

Linnæus proposed the name of *A. venatoria* for a spider far too concisely described, referring, as above mentioned, to Brown's forty-fourth plate, but to the second figure on that plate, whereas the nest with the double trap is figure 3, 3*a*, 3*b*, on the same plate, to which Linnæus has nowhere referred; neither has Linnæus described any spider under the name of *A. nidulans*, as quoted by Latreille in his Memoir on *Mygale* above referred to. We find this last name first and for the only time employed by Fabricius, in the "Mantissa Insectorum" (vol. i. p. 343), as the name of a spider in the collection of Sir J. Banks, from the American islands, and to which description he added a reference

* It may be mentioned in connexion with this observation, that there are several distinct American species now known, belonging to the same genus as Mr. Sells's Jamaica spider.

to Brown's plate 44, fig. 3. In his subsequent work, however, the "Entomologia Systematica," vol. ii. p. 409, he incorrectly gives his *A. nidulans* as synonymous with the *A. venatoria*, Linnæus, retaining his reference to Brown's plate 44, figure 3, although Linnæus had referred to fig. 2 only. It fortunately happens that the identical copy of Gronovius which belonged to Linnæus is now preserved in the Linnæan Society's Library, and as Linnæus had written the name *venatoria* opposite to the description of the spider given by Gronovius under No. 938, it is clear that *this* Linnæan description is intended for the species described by Gronovius, which belongs to a totally different family, which does not make tubular cells, but carries its egg-case beneath its body, as correctly described by Gronovius, Merian, and Sloan, the first three Linnæan authorities for the species; of which also the specific name implies a different economy. The spider, however, figured by Brown in his 2nd figure of plate 42 is a true *Mygale*, and Linnæus had written, opposite to its description, in his copy of Brown's work, "*araneus avicularius*," but he does not cite it in his account of that species, but incorrectly refers it to the Gronovian spider. The Baron Walckenaer is, therefore, correct, when he says that Linnæus incorrectly cited Brown's figure 2 as a synonym of the Gronovian species; but he is in error in stating that Linnæus referred to Brown's figure of the *M. nidulans*, Linnæus having no where noticed the figures given by Brown of the trap-door species.

Kirby and Spence, Koch and others, following the later nomenclature of Fabricius, have described the trap-door Jamaica species under the name of *Mygale* or *Aranea venatoria*. That specific name, however, has been shown to belong to Gronovius's species, which Latrielle gives as a *Thomisus*, and Walckenaer as an *Olios*. The latter author, however, although citing Linnæus correctly, prefers adopting a specific name of his own, *O. Leucosius*, which must be rejected in favour of the Linnæan name.

We know not what authority Fabricius had for giving Sir Joseph Banks's insect as the architect of the nest figured by Brown in his third figure, but we know that Latreille's description of his *M. nidulans* is derived from the very same specimen described by Fabricius, Sir Joseph Banks's collection being now in the possession of the Linnæan Society.

Supposing the existence of two species differing in their modes of forming the valves of their nests, it is evident that if Fabricius be correct in giving the reference to Brown's figure 3, under his *A. nidulans*, Latreille must clearly have erred in considering the

nests with a single trap-door as of that species, as we are led to the conclusion, that *A. nidulans* makes a double valve, similar to that figured by Brown in his 3rd figure, and described by Olivier, from M. Badier's Guadaloupe specimen, whilst the single-valved nest is the work of a distinct species; and, as Mr. Kirby, in his "Bridgewater Treatise," has figured the single-valved nest of the Jamaica insect, whilst another figure of the nest and spider, from specimens in the British Museum, has been published in Griffith's "Animal Kingdom," *Arachnida*, pl. 7, under the name of *Mygale nitida*, without any reference to the two species noticed above, we may adopt this name for the single-valved species, until it shall be determined (as I have no doubt will be the case) that the difference in the formation of the valves is the effect of accidental circumstances.

There are also figures of the single-valved nest and its architect in the "Naturalist's Miscellany" of Shaw and Nodder, pl. 614.

At the period when Latreille made his examination of the Banksian collection, the genus *Mygale* had not undergone any dismemberment; consequently the large Jamaica species was retained by him under Fabricius's name of *nidulans* in that genus, and as he observed that the insect "se rapproche de la *Mygale pionnière* de M. Walckenaer," it has been placed without further comment in the subgenus *Cteniza*, with the *Mygale pionnière* (*M. fodiens*) and *M. maçonne* (*M. cæmentaria*), by all subsequent writers.

An examination of Mr. Sells's specimens has however convinced me that they belong neither to the sub-genus *Cteniza*, nor yet to the genus *Mygale*, being referable to the genus *Actinopus* of Perty, (*Sphodros* of Walckenaer or *Pachyloscelis*, *Cratoscelis*, and *Actinopus* of Lucas); and most probably identical with the *Sprodros Abbotii* of Walckenaer (Hist. Nat. Ins. Apt. 1, p. 247), so named in honour of the Georgian entomologist, Abbot, who has illustrated it in his drawings under the name of the purse-web spider, (No. 36 of the 14th vol. of his Collections of Drawings in the British Museum Library, No. 7956, Plutarch 126 E.) It is also probably identical with the *Mygale truncata* of Hentz, (Boston Journal of Nat. Hist. vol. iv. No. 1. "Descriptions of Spiders of the United States," Species 1). *Mygale nidulans*, Fab., Walck., if distinct from that of Latrielle, is also most probably a species of the same genus *Actinopus*, which comprises several other species whose economy has not been observed.

Another species of trap-door spider remains to be described, which was forwarded to this Society from Barbary by Mr. Drummond Hay, together with its nest, which likewise belongs to the

same genus as Mr. Sells's Jamaica species, to which it is so closely allied as scarcely to present any specific distinction beyond that of size. The nests which I have seen have been about four inches deep, slightly curved within, about three-quarters of an inch in diameter; the valve at the mouth not being circular, but rather of an oval form, one side, where the hinge is placed, being straighter than the other. The valve is formed of a number of layers of coarse silk, in the upper layers of which are imbedded particles of the earth, so as to give the cover the exact appearance of the surrounding soil, the several successive layers causing it, when more closely inspected, to resemble a small flattened oyster-shell. The mouth of the nest is shelved off at the edge, so that the valve, which is also shelved off at the edge, falls into and upon the orifice, and shuts it far more completely than if the edges of the valve had been cut straight. The inner lining of the nest and of the valve is pure white. The architect of this nest I propose to name

Actinopus ædificatorius.

Piceo-niger, nitidissimus, subtus, cum pilis maxillaribus palli-dioribus, abdomine obscuro, fusco sericeo, subtus ad basin maculis 4 luteis, cephalo-thorace in parte postica semicir-culariter valdè impresso, pedibus fere æqualibus. ♀

Long. corp. lin. 12—14.

This spider is of a pitchy black colour, and (with the exception of the abdomen), very shining and polished; the abdomen (which is considerably larger than the cephalo-thorax and greatly elevated and gibbose), is obscure, very finely sericeous, and of an uniform dull brown black colour: the legs are clothed with hair and fine bristles of various lengths, and the various joints are connected together by a very pale whitish membrane, which gives them the appearance of being annulated; these limbs are nearly of equal size, but variable in thickness; the palpi are also of considerable length, and have all the appearance of a pair of feet, at least in the female, which is the only sex I have seen either of this or the Jamaica species.

The cephalo-thorax is of an oval form, truncated behind, with a slight elevation in front where the eyes are placed, and a very deep semicircular impression behind the middle, open in front, the part which is behind the impression being lower than that in front of it; the eyes, eight in number, form two lines, four in each, the anterior curved with the eyes at about equal distances apart, the outer pair being largest, the posterior line is longer than the

anterior, the two middle eyes being much wider apart. There is also an impression on each side of the cephalo-thorax, above the base of the third pair of legs, as well as some slighter ones running towards each lateral anterior angle. The cheliceræ are very strong, very much polished above at the base, but very rugose, with sharp short points and hairs on the apical half; the extremity is slightly produced within and rough; the hook is very acute, and falls, when at rest, into a groove armed at the sides with about six pairs of acute short tubercles, gradually diminishing to the tip. The maxillæ are slightly produced on the inside, where they are very hairy and armed with many small pointed rugosities; the palpi are long and pediform, the first joint has a transverse elevation across the middle on the inside, which gives it the appearance of a distinct joint; the second joint is very much compressed and bent, and is the longest of all the joints; the next is short; the fourth twice as long as the preceding, compressed, broader, and armed at the edges with hairs and minute but strong pectinations; as is also the fifth joint, which is much shorter and gradually narrowed to the tip, where it is armed with a simple single unguis, having a minute tooth at the base. The first and second pairs of legs are very similar in their structure to the palpi, except that the fifth joint, which corresponds with the fourth joint of the palpi, is succeeded by two joints agreeing unitedly in shape and armature with the fifth joint of the palpi, but terminated by two ungues, each of which has a strong tooth near the middle. The third pair of legs, on the contrary, is of a structure quite unlike the preceding, being very robust, the third joint being very much thickened and swollen beneath, the fourth, fifth and sixth joints being especially thickened at the tips, in no wise flattened but armed with strong short acute tubercles, as is also the terminal joint, which is armed at the tip with two ungues agreeing in structure with those of the fore-legs. The hind pair of feet is also different in its structure from any of the others, being more regularly cylindrical and less powerfully armed than the third pair; the terminal joints especially are more slender, but the ungues are similar to those of the other feet. All the legs have the terminal joint thickly clothed with short hairs, but these do not prevent either the short acute tubercles or the ungues from being seen. The sternal plate is somewhat oval, flat, and highly polished, its anterior part having the labium (languette, Latrielle), attached to it, which is distinct, horny, semi-ovate, hairy and obtuse in front; this fits exactly between the base of the

maxillæ, and between it and the base of the cheliceræ I observed a minute oblong deflexed tonguelet of a membranous texture, which seems analogous to the hypopharynx of insects; it is of a membranous texture, and was observed without dissection or the slightest difficulty. I presume this is the part which Latreille names the camerostome. It is impossible on examining the locomotive appendages of this insect not to be struck with the conviction that the maxillæ are but a modified pair of feet. If we examine the hind pair of feet, for instance, we find a short piece articulating with the sternum, which is analogous to the coxa of insects; this is succeeded by a still smaller piece, which is as evidently the trochanter; then comes the most powerful joint of the foot, which is the femur; then is there another short joint which seems to constitute, with the following, the tibia; and these are followed by an apparently two-jointed tarsus, thus making seven joints in the foot, the number ordinarily assigned to the legs of the *Arachnida*. In the system of M. Savigny the names given to these joints are as follows:—

1.—La hanche	=	the Coxa.....		
2.—La exinguinal 3.—Le fémoral ..	composing la cuisse =	the Trochanter the Femur		
4.—Le génual .. 5.—Le tibial	composing la jambe =	the Tibia		of the feet of Insecta.
6.—Le metatarse 7.—Le tarse	composing le pied =	the Tarsus		

Now the maxillæ and their palpi, as indeed Savigny has long ago shown, are but a pair of modified legs. If we therefore consider the maxillæ as the basal joints or the coxæ of a fore foot, we shall find that the first and the four following joints of the palpi correspond, joint for joint, with the same joints of the foot, in extent of development. The difference takes place in the palpi having a joint less at the end than the feet; by comparing, however, the palpus and the first foot of this insect, it is quite evident that the last joint of the palpus is composed of the two terminal joints of the foot soldered together.

We thus arrive at the following correspondence between the joints of these two members:—

FEET.		PALPUS.
Coxa, or	La hanche, *Sav.* ..	Maxilla.
Trochanter, or	L'exinguinal, *Sav.* ..	1st joint (Article sous axillaire, *Sav.*)
Femur, or	Le fémoral, *Sav.* ..	2nd joint (Huméral, *Sav.*)
1st joint of the Tibia ..	Le génual, *Sav.* ..	3rd joint (Cubital, *Sav.*)
2nd joint of the Tibia ..	Le tibial, *Sav.*	4th joint (Radial, *Sav.*)
1st, 2nd joints of the Tarsi	Le metatarse, *Sav.* Le tarse, *Sav.* ..	5th joint (Digital, *Sav.*)

Such is the correspondence between the feet and the palpi of the females of this genus, but the males form a remarkable exception to the general character of the class, being in fact the only spiders which have six joints in the palpi, in addition to the maxilla, or seven in all, as shown by M. Lucas in his valuable memoir on this genus (in the "Annales de la Société Entomologique de France," 1837, p. 379). The same author, in his memoir on the genus *Hersilia* (in Guérin's Mag. de Zool. class 8, pl. 12 and 13), also showed that that genus was anomalous in possessing eight joints in the feet, instead of seven, the usual number, the tarsi being composed of three joints instead of two. He consequently gave to this extra joint of the tarsus the name of Le mesotarse, placing it (as its name indeed implies) between the metatarsus and the tarsus, and in order to establish the correspondence between the joints of the foot of *Hersilia*, and the joints of the palpus of *Actinopus* ♂, he proposed the following modifications:—

PALPI.	PIEDS.
Machoire correspondant à la	Hanche.
Art. sous axillaire (*Sav.*)	A l'exinguinal (*Sav.*)
Huméral (*Sav.*)	Au fémoral (*Sav.*)
Cubital (*Sav.*)	Au génual (*Sav.*)
Radial (*Sav.*)	Au tibial (*Sav.*)
Metadigital (*Lucas*)	*Au mesotarse* (*Lucas.*)
Digital (*Sav.*)	Au tarse (*Sav.*)

I cannot, however, exactly agree with M. Lucas that it is "facile de voir que les articles qui composent les organes de la manducation correspondent entièrement à ceux de la locomotion," there being eight joints in the feet of *Hersilia*, and only seven in the palpi of *Actinopus* ♂. M. Lucas has indeed added "le metadigital correspond au mesotarse et enfin le digital sur le dernier article (of the palpi) est le correspondant du tarse, qui se compose ordinairement de deux articles, le metatarse et le tarse;" thus increasing the difficulty by placing his new joint, the mesotarse, or middle joint of the tarse, before the basal joint, or the metatarsus.

By taking a more generalised view of the matter I have no doubt but that we shall arrive at a very different conclusion from that obtained either by Savigny or M. Lucas. The structure of the female palpus, as above stated, evidently corresponds with that of the feet, the two terminal joints of the feet being soldered together in the palpi of the female. This supposition receives full corroboration, by the fact that the male palpi have the two terminal joints distinct, as stated by M. Lucas.

Now it will at once be perceived that the number and form of the joints of the palpi, thus developed by the addition of another joint, exactly correspond with the ordinary condition of the feet of the spider, that is, in possessing seven joints. We have, therefore, to inquire into the anomaly of the genus *Hersilia*, and I think I shall have no difficulty in proving that that genus has but the typical number of joints. In carefully examining the ungues of *Actinopus* while alive, I observed arising at the base of and between the ungues a separate single minute spur, moveable with them, and arising from a distinct moveable fleshy joint at the end of the last joint of the foot. Thus the mode of insertion of these ungues is totally different from that of the ungues of, for instance, a beetle; since here they have a united motion, for by touching the basal spur alone they are set in action. Here then we have, as it appears to me, the analogue of the additional joint of the foot of *Hersilia*, which instead of being a mesotarsal joint, as at first supposed by M. Lucas, or as preceding the metatarsus as subsequently considered by him, is shown to be an additional *terminal* joint. The following summary of these analogies and "concordances" will therefore place the subject in a clearer light, and get rid of all the supposed anomalies both in the palpi of *Actinopus* and feet of *Hersilia*.

Foot.	Foot.	Foot.	Palpus.
1. Coxa	or Hanche, *Sav.*.	.....	Maxilla.
2. Trochanter.	or L'exinguinal . *Sav.*	.....	Art. axillaire.
3. Femur	or Le fémoral, *Sav.*.	.....	Huméral.
4. 1st joint . } of the	or Le génual, *Sav.*	.....	Cubital.
5. 2d joint. . } Tibia,	or Le tibial, *Sav.*	.....	Radial.
6. 1st joint . } of the Tarsus,	or Le Metatarse, *Sav.*	Metatarse, Lucas, in Guér. Mag. de Zool. Mesotarse, do., in Ann. Soc. Entom. de France. . . .	Metadigital, *Lucas*, ordinarily soldered with the digital, but separated in *Actinopus* ♂.
7. 2d joint. . } of the Tarsus,	or Le tarse, *Sav.*	Mesotarse, Lucas, in Guér. Mag. de Zool. Metatarse, do., in Annales . .	Digital, *Sav.*
8. 3d joint. . } of the Tarsus,	or Pseudo-tarsus, Westw, ordinarily concealed, but developed in *Hersilia*	Tarse, Lucas, in Guér. Mag. de Zool. and in Annales. .	Pseudo-digital, *Westw.*, always concealed in the females, but probably transformed into the exciting organ of the male.

The correctness of these views seems to be confirmed by the circumstance that the palpi of the male *Actinopi*, in addition to the extra or seventh joint, noticed by Messrs. Perty and Lucas, have the male exciting organs developed at the extremity of this seventh joint, under the form of a globular joint and hook, as represented by Lucas in his figure 5, (Ann. Soc. Ent. Fr. t. vii. pl. 13), which figure is alone sufficient to lead us to the conclusion, that K and K constitute an additional joint, armed with a single hook, answering perfectly to the short fleshy unguiferous joint of the feet of the female *Actinopi*, or to the terminal developed joint of the foot of *Hersilia*.

There still remains to notice another anomalous genus described by Mr. MacLeay, under the name of *Otiothops*, as an example that the feet may, on the other hand, occasionally assume the ordinary number of joints of the palpi, the fore legs of that genus having only six joints instead of seven: it is always difficult to reduce these remarkable forms to the typical structure, but judging from the figure of the foot detached, it would appear that the coxa and trochanter have become soldered together, the second joint being represented as very large, and having all the appearance of a femur.

A few remarks upon the habits of the *Antinopus ædificatorius* will conclude this memoir. These will be confined to the slight observations I have been able to make upon the individuals since they have been in the possession of this Society. I regret that these observations must necessarily be scanty, owing to the lateness of the season when they arrived. Two nests were forwarded, each of which contained a living female. Flies were given to them, or rather were placed in the nests by raising the valve, which the spiders devoured. Occasionally it required considerable force to raise the valve, in which cases it was found that the inhabitant had seized it with the hooks of the cheliceræ, the ungues of the palpi, and of the four fore legs. On examining the undersurface of the valve, its surface presents many minute elevations, but there are none of the minute impressions arranged in a semicircle, as described by M. V. Audouin on the underside of the valve of *M. fodiens*. Our spider contented itself with thrusting the acute points of its cheliceral hooks and ungues into the meshes of the very fine silk, neither did the insect apply the rugose extremity of the cheliceræ to the undersurface of the valves, and with all deference to M. V. Audouin, I do not believe it possible that *M. fodiens* can introduce into the "trous de

son couvercle *les épines* et les crochets cornés dont sont munies ses maçhoires." The extremely powerful and rugose structure of the third pair of feet immediately suggests the idea, that whilst the preceding feet are employed in holding down the valve, this pair of feet is used in holding the spider at the upper part of its nest, their strong muscles, by being forced downwards, preventing the spider from being drawn upwards; and hence it is of much greater importance that this pair of feet should be strong rather than the hind pair. Sometimes after disturbing the spider I found that it spun itself in its nest by fastening the loose side of the valve to the lining of the cell. After some time I found a number of young in one of the nests; these were of a very pale colour, their motions were very slow, and they were constantly observed upon the inner lining of the nest, and never on the back of the spider.

P.S. (July, 1842.) The Baron Walckenaer, in his supplement to the second volume of his "Histoire Naturelle des Insectes Aptères" (p. 440), after noticing the identification established by me in the preceding article (an abstract of which appeared in the "Annals of Natural History" shortly after it was read before the Entomological Society) between *Mygale nidulans* and the genus *Actinopus* (or *Sphodrus*, Walck.), and the probable identity which I suggested might exist between the *M. nidulans* and the *Sphodros Abbotii*, both being natives of new world, adds, however, "mais nous sommes surpris de trouver une *Théraphose* de ce genre en Barbarie. N'y ait-il pas erreur dans la provenance pour cette dernière espèce? ou est-il bien vrai qu'elle appartienne au genre *Sphodros?*"

The description given in the preceding memoir of my new species will, I think, sufficiently answer the latter of these questions in the affirmative. The former will, perhaps, be best answered by transcribing the original letter forwarded to this Society with the living insects themselves.

"7th October, 1839.

"Sir,

"Mr. Drummond Hay, H. M.'s Agent and Consul-general at Tangiers, has requested me to present the Entomological Society with two specimens of the mason spider, with their nests. I have every reason to believe that these insects are alive, but of course

they will require feeding with flies ; but great care must be taken in doing this, in opening the door of their cell.

"I have the honour to be, Sir,

"Your most obedient servant,

"W. G. Chapman."

"The Secretary of the Entomological Society."

DESCRIPTION OF PLATE X.

Fig. 1.—*Actinopus ædificatorius* of the natural size.
2.—The same seen sideways.
3.—The front of the body with the legs cut off at the base.
4.—The mandible and front of the cephalo-thorax with the legs removed to show the parts of the mouth.
5.—The front of the body seen from above.
6.—The chelicera seen from beneath.
7.—The maxilla and basal joints of the palpus.
8 & 9.—The terminal joint of the palpus seen in different positions.
10.—The underside of the front of the body.
11.—One of the first and second pair of feet.
12.—The ungues of these feet.
13.—The third pair of feet.
14.—The terminal joints of this foot.
15 & 16.—The ungues of these feet in different positions.
17.—The fourth pair of feet.
18.—The ungues of these feet.
19.—The abdomen seen from above.
20.—The abdomen seen from beneath.
21.—A minute membranous flap between the base of the spinnerets.
22.—The outside of the orifice of the nest, with the door closed.
23.—The underside of the trapdoor.
24.—The top of the nest, with the trapdoor partly open.
25.—The same, with the spider pulling the door down.